

App. No. 10/099,775
Attorney Docket 3206.2.1 NP

Amendments to the Claims

1. (currently amended) An architectural system comprising:

a triangular base comprising:

first, second and third complete struts substantially aligned along first, second and third axes (AB, BC, and AC) respectively, the axes all contained within a base plane, the first and third axes forming a first base angle CAB, the first and second axes forming a second base angle ABC, the second and third axes forming a third acute base angle BCA, more than one of the struts each comprising at least two rigid pieces able to move apart so as to produce a strut elongation;

a first node A engaging the first and third complete struts, the first node A large enough to maintain the first base angle CAB at a first positive value about equal to $(j \times 20.9^\circ + k \times 31.7^\circ + m \times 36^\circ + n \times 37.4^\circ)$, where j, k, m and n are each an integer less than three;

a second node B engaging the first and second complete struts, the second node B large enough to maintain the second base angle ABC at a second positive value about equal to $(q \times 20.9^\circ + r \times 31.7^\circ + s \times 36^\circ + t \times 37.4^\circ)$, where q, r, s, and t are each an integer less than three;

a third node C engaging the second and third complete struts, the third node C large enough to maintain the third base angle BCA at a third positive value less than 60° ; and

an extension engaging the triangular base and comprising a fourth complete strut,

wherein first node A, second node B, and third node C form a base plane and the fourth

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strut does not lie in the base plane, the fourth complete strut being substantially aligned along a fourth axis that forms a substantially acute angle $> 3^\circ$ with the base plane.

2. (previously presented) The architectural system of claim 1 in which the fourth axis forms an angle DAB with the first axis that is substantially equal to a reference angle selected from a group consisting of 13.3° , 15.5° , 20.9° , 22.2° , 31.7° , 35.3° , 36° , 37.4° , 37.8° , 41.8° , 44.5° , 45° , 54.7° , 58.3° , 60° , 63.4° , 65.9° , 69.1° , 70.5° , 72° , 75.5° , 76.7° , 79.2° , 82.2° , 90° , 97.8° , 100.8° , 103.3° , 104.5° , 108° , 109.5° , 110.9° , 114.1° , 116.6° , 120° , 121.7° , 125.3° , 135° , 135.5° , 138.2° , 142.2° , 142.6° , 144° , 144.7° , 148.3° , 155.9° , 157.8° , 159.1° , 164.5° , and 166.7° .

3. (previously presented) The architectural system of claim 1 in which the fourth axis forms an angle with the second axis that is substantially equal to a reference angle selected from a group consisting of 13.3° , 15.5° , 20.9° , 22.2° , 31.7° , 35.3° , 36° , 37.4° , 37.8° , 41.8° , 44.5° , 45° , 54.7° , 58.3° , 60° , 63.4° , 65.9° , 69.1° , 70.5° , 72° , 75.5° , 76.7° , 79.2° , 82.2° , 90° , 97.8° , 100.8° , 103.3° , 104.5° , 108° , 109.5° , 110.9° , 114.1° , 116.6° , 120° , 121.7° , 125.3° , 135° , 135.5° , 138.2° , 142.2° , 142.6° , 144° , 144.7° , 148.3° , 155.9° , 157.8° , 159.1° , 164.5° , and 166.7° .

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4. (previously presented) The architectural system of claim 1 in which the fourth axis forms a fourth angle with another of the axes that is substantially equal to a reference angle selected from a group consisting of 13.3°, 15.5°, 20.9°, 22.2°, 31.7°, 35.3°, 36°, 37.4°, 37.8°, 41.8°, 44.5°, 45°, 54.7°, 58.3°, 60°, 63.4°, 65.9°, 69.1°, 70.5°, 72°, 75.5°, 76.7°, 79.2°, 82.2°, 90°, 97.8°, 100.8°, 103.3°, 104.5°, 108°, 109.5°, 110.9°, 114.1°, 116.6°, 120°, 121.7°, 125.3°, 135°, 135.5°, 138.2°, 142.2°, 142.6°, 144°, 144.7°, 148.3°, 155.9°, 157.8°, 159.1°, 164.5°, and 166.7°.

5. (original) The architectural system of claim 4 in which one of the struts has a maximum diameter D and in which one of the nodes has a radius R that is not less than $D/2$.

6. (previously presented) The architectural system of claim 4 in which the extension further comprises a polygon structure having N sides each occupied by a respective complete strut, the third axis containing one of the N sides, the fourth axis containing another of the N sides wherein the fourth complete strut forms a portion of the polygon structure.

7. (original) The architectural system of claim 4 in which $j=0$.

8. (original) The architectural system of claim 4 in which j and q are both even.

9. (original) The architectural system of claim 4 in which $j=1$.

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10. (original) The architectural system of claim 4 in which n and t are both even.
11. (original) The architectural system of claim 4 in which each of the nodes has a radius R and in which each of the struts has a respective diameter less than $2R$.
12. (original) The architectural system of claim 4 in which the second node includes first and second couplings respectively engaging the first and second complete struts, the first coupling capable of retaining the first strut under a tension of 100 Newtons along the first axis (AB), the second coupling capable of retaining the second strut under a tension of 100 Newtons along the second axis (BC).
13. (original) The architectural system of claim 4 in which the struts are primarily composed of a non-metallic material.
14. (original) The architectural system of claim 4 in which $m=0$.
15. (original) The architectural system of claim 1 in which $m=0$.
16. (previously presented) The architectural system of claim 1 in which $j \neq q$.
17. (original) The architectural system of claim 1 in which $q < 2$.
18. (original) The architectural system of claim 1 in which $k=0$.

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19. (original) The architectural system of claim 1 in which k and r are both even.

20. (previously presented) The architectural system of claim 1 in which $k \neq 1$.

21. (original) The architectural system of claim 1 in which $n=t$.

22. (original) The architectural system of claim 1 in which $j=0$.

23. (original) The architectural system of claim 1 in which j and q are both even.

24. (original) The architectural system of claim 1 in which $j=1$.

25. (canceled)